SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FORMED IN 1958

A NON-PROFIT AMATEUR TECHNICAL ORGANIZATION DEDICATED TO THE ADVANCEMENT OF COMMUNICATIONS ABOVE 1000 MC.

W6IFE Newsletter

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The 7 September 2000 meeting of the SBMS will be about 24 GHz. The SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1900 hours local time on the first Thursday of each month. Check out the SBMS web site at http://www.ham-radio.com/sbms/.

Last meeting President Doug, K6JEY suggested that Bill, WA6QYR talk about markers for 10 and 24 GHz using a handy-talkie and a diode. Peter G3PHO has some info on using a diode on a small antenna to make a marker for 24 GHz at http://www.g3pho.free-online.co.uk/microwaves/marker.html. One can also use part of the gold rectangular Qualcomm board's mixer diodes and just cut them out. W6OYJ of San Diego presented this at a past SBMS meeting for use on 24 GHz.

If you have a 440-fm ht, you can tune to 445.652 MHz on the ht and get a harmonic (23) on 10,250 GHz. If you tune 446.759 MHz (54x) is 24.125 GHz. If you have a 1.2 GHz FM HT the frequencies are 1,281.250 MHz (8x) is 10,250 GHz and 1,269.735 MHz (19x) is 24.125 GHz.

Bill, WA6QYR had a Down East Microwave weak signal source to show what generates an 1152 MHz signal based upon a non-ovenized 96 MHz crystal. Using a small attenuator to pad the source, one can drive a diode detector waveguide mount and produce harmonics easily heard in the waveguide band. Bill had a WR90 mount which produced signals at 10,368 MHz. Schematic of the DEM unit enclosed in this issue. Another piece of hardware was the Qualcomm 1152 MHz board which can be made to produce about +5 dBm at 1152 MHz. Bill had one of these in the original Qualcomm heat sink box with 12-v dc power supply. Nice unit for on the hilltop, if you need a signal to check that the rig is still workings and possible reference frequency. Visitor Keith Schaffiath N6ORS of Corona stopped by. Welcome. Everyone present gave where he thought he would be during the contest and Bill posted the list on the SBMS reflector. 21 people present.

SBMS Prez Sez: The next four month's meetings will highlight what is going on in the higher bands. For each band there will be examples of how far people have gone in building equipment and what equipment is available cheaply. Here is the schedule:

September: 24 GHz. Several members will present their rigs. We have a transverter that includes a RX and TX module and circulator for 24 GHz narrow band. It puts out about 15 mw and has about a 5 dB noise figure and works off of 12 VDC. LO input is 12 GHz The cost is about $80. Other modules are available.

October: 47 GHz. We will review what members are doing. An example rig will be demonstrated that will be at the Microwave update back east. Cost of the transverter is about $35 and takes 12 GHz for an LO and 2 meter IF. There will also be a bit of video of W0EOM's lab and rigs. We will also get a glimpse at a transverter being used in Japan, and perhaps have some narrow band modules available. They are being evaluated at this writing, so I can't say too much, but they look very nice; and will be very reasonable in price.

November: 74 GHz Again members will share what they are doing on 74 GHz and above. (Yes, there are actually people working on stations!) We will also see the last of the video which includes W0EOM's record setting stations above 100 GHz. Sorry no modules available.

December: 1.2 GHz The frequency may be low, but the excitement is high for the hottest band in EME. What does it take to get on the air? You will be surprised. Come and find out.

So, get soldering on your 12 GHz bricks and synthesizers, and think about making horns out of hobby brass. It looks like a whole new era for gear on the "high bands". High bands? Why, when I was a kid "high bands" were everything above 432..... Oh, never mind. Whoever thought in those days that we would be looking at easy ways to get on 47 GHz? 73, Doug K6JEY

Scheduling-

9-10 September VHF contest

16-17 September 10 GHz and Up contest second half

5 October W0EOM on 47 GHz gear and feature some video.

2 November Nanusawa's gear on 74 GHz and up with the last of the video

7 December 1296 MHz EME

Wants and Gots for Sale

Want tech info for HP8551B spectrum analyzer RF and display sections and the HP8441A preselector Kurt 310-718-4910 or k6RRA@gte.net

Want HP8690a/b mainframe sweeper chuck chuckswed@juno.com

For Sale HP5245 counter $50 some plug-ins call for list Dick rabremer@juno.com 714-529-2800

For Sale Tek 492 spectrum analyzer up to 21 GHz $2500 works perfect Sam 714-523-0537

For Sale 18 inch DSS dishes w/o mount hardware John KJ6HZ 714-761-0242.

Activity reported at the August 2000 SBMS meeting- Dick, WB6DNX went to the picnic and has a version 3 10 GHz rig working; Gary, W6KVC worked video ATV from Heaps from the picnic; Bob, W6SYA went to the picnic; Ken, WB6DTA went to the picnic and had his new 5 GHz rig to show; Gary, KE6JUV worked some 2 meter; Sam, K6VLM went to the picnic; Larry, K6HLH went to the picnic and has his 10 GHz rig working; Dick, K6HIJ is working on a Qualcomm 10 GHz rig; Lanny, W6AT got his 10 GHz rig working for the picnic; Matt, KE6ALM is now a full time student; Joe, WA6PAZ went to the picnic and fixed his 10 GHz LO for the 10th time; Kurt, K6RRA went to the picnic and has a working 10 GHz wideband rig ; Jeff, KN6VR has fixed some preamps; Mel, WA6JBD has a working 24 GHz 100 mw rig and working with some 2 GHz converters; Ed, W6OYJ has been adding an output indicator since he had some operator error at the picnic and the 24 GHz rig is now tunable over both WBFM frequencies; Chuck, WA6EXV repaired his 24 GHz WBFM preamp and is working on his 24 GHz narrowband rig for his trip to Colorado and went to the picnic; Bill, WA6QYR went to the picnic and has built some switching power supplies for the local RACES group.

The 29 July Picnic/ Equipment test event at Fairview Park in Costa Mesa was a super meeting of 20 people with equipment. The hot inland temperatures were kept away by a nice sea breeze. Kerry, N6IZW and Ed, W6OYJ of the San Diego Microwave Group carried up test equipment that Kerry had designed which allowed testing of minimum discernable signal as heard by both SSB and FM rigs on both 10 and 24 GHz. Then Kerry was able to measure ERP from each rig. This was done by a pole-mounted mixer and LO assembly with a coax stretched out to the pole some 300 feet away. Kerry will provide an Excel spread sheet to show results. People present included: Bill, WA6QYR from Ridgecrest, DM15dp with a 24 GHz wbfm rig and 18 inch dish; Ken, WB6DTA of Burbank, DM04; John, KJ6HZ of Stanton with 10 GHz gunnplexer rig (finished the night before); Sam, K6VLM of LaMirada, DM03xv with a new 10 GHz Qualcomm version rig and 3 ft dish; Bob, W6SYA of La Crescenta, DM04vf with older 10 GHz Qualcomm version and 2 ft dish; Joe, WA6PAZ of Bellflower; new member Glenn, KE6HPZ of Downey, DM03ww with a 10 GHz rig and 27 inch dish; Dick, WB6DNX of Brea, DM03ju with 2 10 GHz rigs and 3 ft dish and a 24 GHz wbfm rig and 16 inch dish; Larry, K6HLH of Lake Los Angeles, DM14cp; Chuck, WA6EXV of Ridgecrest, DM15dp; visitor Ken, KM6YH of Brea; Hiro, KE6IDA of Los Angeles with a 10 GHz rig and 3 ft dish, Dave, WA6CGR of Diamond Bar with a very portable SSB 0.5 watt 10 GHz rig and 17 db horn; visitor Mark, KA6PUW of Costa Mesa with some 10 GHz ATV gear; Gordon, WA6FMX of Thousand Oaks; Ed, W6OYJ of San Diego with a 10 GHz SSB rig and 3 ft dish and a 5 mw 24 GHz rig with 15 inch dish; Kerry, N6IZW of San Diego; Lanny, W6AT (SDMG) of Big Bear Lake with 10 GHz SSB rig with 3 ft dish; Kurt, K6RRA of Seal Beach with an ARR 10 GHz gunnplexer rig and 17 db horn; Robin, WA6CDR of Fountain Valley with 6 ft dish mounted 8 watt 2 db NF 10 GHz rig (guess who won the ERP event?). Thanks again to Ed and Kerry for providing the measuring equipment.

Just for info incase you didn't know where the microwave ham bands are: 1240-1300 MHz, 2300-2310 MHz, 2390- 2450 MHz, 3300-3500 MHz, 5650-5925 MHz, 10.0- 10.5 GHz, 24.0- 24.250 GHz, 47.0- 47.2 GHz, 75.5-81.0 GHz, 119.98- 120.02 GHz, 142- 149 GHz, 241- 250 GHz and all above 300 GHz. And they are open to all license classes. These can be found on the ARRL web site under frequencies. Designated operating frequencies for SSB USB Horizontal polarization are 1296.1 MHz, 2304.1 MHz, 3456.1 MHz, 5760.1 MHz, 10,368.1 MHz and 24,192.1 MHz. Check the web site at http:// www.ham-radio.com/sbms/. If you slide on to the San Diego Microwave Group pages at www.ham-radio.com/ sbms/ sd you will find Ed, W6OYJ's collection of articles on the Qualcomm modifications to several pieces of hardware that make useful rigs or test equipment.

A list of email for the San Diego Microwave Group&emdash;

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Vern, W6SDE with his 3,300 MHz Rocklock rig back in the 1962. Photo via George, K6MBL files

San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs from Hawaii and Alaska to the east coast. Dues are $15 per year which includes a badge and monthly newsletter. Your mail label indicates your call followed by when your dues are due. Dues can be sent to the treasurer as listed under the banner on the front page.

If you have material you would like in the newsletter please send it to Bill WA6QYR at 247 Rebel Road Ridgecrest, CA 93555, bburns@ridgecrest.ca.us, or phone 760-375-8566. The newsletter is generated about the 15th of the month and put into the mail at least the week prior to the meeting. This is your newsletter. SBMS Newsletter material can be copied as long as SBMS is identified as source.

San Bernardino Microwave Society newsletter

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USA